

Hazardous Substances (Tank Wagons and Transportable Containers) Regulations
2004

Silvia Cartwright, Governor-General

Order in Council

At Wellington this 1st day of March 2004

Present:

Her Excellency the Governor-General in Council

Pursuant to section 76(1) of the Hazardous Substances and New Organisms Act 1996, Her Excellency the Governor-General, acting on the advice and with the consent of the Executive Council (given on the recommendation of the Minister for the Environment made in compliance with section 141(1) of that Act), makes the following regulations.

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Regulations

1 Title
These regulations are the Hazardous Substances (Tank Wagons and Transportable Containers) Regulations 2004.

Part 1
Preliminary provisions

2 Commencement
These regulations come into force on 26 March 2004.

3 Interpretation
In these regulations, unless the context otherwise requires,---

Act means the Hazardous Substances and New Organisms Act 1996

gas has the same meaning as in regulation 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

liquid has the same meaning as in regulation 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

maximum filling level means the level to which a tank may be filled with a liquid when the temperature of that liquid is 15°C but that would allow each compartment of that tank to remain less than full if the temperature of that liquid were raised to 40°C

maximum obtainable pressure means a pressure that is not more than the pressure of a hydrostatic head of liquid when the tank is full, plus---

- (a) 30 kPa for tank compartments with a capacity exceeding 8 600 L; or
- (b) 20 kPa for tank compartments with a capacity not exceeding 8 600 L

recommended operating pressure means the pressure at which the tank is designed to operate

tank means an enclosed receptacle permanently fixed to the chassis of a tank wagon; and includes---

- (a) any compartments and all components or materials (including coatings) necessary for the tank to perform its containment function; and
- (b) all parts affecting the structural integrity of the tank and the means of closing the tank

tank wagon means a vehicle, including (but not limited to)---

- (a) a tank truck or refuelling unit, that---
 - (i) has its own means of propulsion; and
 - (ii) contains a tank; and
 - (iii) is constructed for the primary purpose of the bulk transport of hazardous substances as a liquid or gas by road or rail; or
- (b) a tank semi-trailer, tank trailer, or rail wagon that---
 - (i) contains a tank; and
 - (ii) is constructed for the primary purpose of the bulk transport of hazardous substances as a liquid or gas by rail or road

transportable container means a container that---

- (a) is not fixed to a chassis; and
- (b) can be unloaded at a destination or transferred to another transport

mode; and

(c) is referred to in chapter 6.5 or chapter 6.7 of the UN Model Regulations

UN Model Regulations mean the 13th revised edition of the Recommendation on the Transport of Dangerous Goods Model Regulations, published in 2003 by the United Nations.

4 Application of regulations

(1) Except as specified in subclauses (3) and (4), these regulations apply to any tank wagon whose construction commences after the commencement of these regulations.

(2) Subclauses (3) and (4) apply to any tank wagon whose construction commenced before the commencement of these regulations unless that tank wagon complies with all other relevant regulations in these regulations.

(3) If a tank wagon is to be used to carry hazardous substances with the classifications 2.1.1, 3, or 5, the person in charge of that tank wagon must ensure that---

(a) the tank wagon is issued with a LAB number by the Chief Inspector of Dangerous Goods that authorises that tank wagon or type of tank wagon to carry those hazardous substances; or

(b) a letter or memorandum signed by the Chief Inspector of Dangerous Goods authorises that tank wagon or type of tank wagon to carry those hazardous substances; or

(c) a letter or memorandum signed by the Authority authorises that tank wagon or type of tank wagon to carry those hazardous substances.

(4) If a tank wagon is to be used to carry hazardous substances with the classifications 6 or 8, the person in charge of that tank wagon must ensure that a TSR number is issued by the Director General of Health that authorises that tank wagon or type of tank wagon to carry those hazardous substances.

(5) A tank wagon to which subclause (3) or subclause (4) applies must comply with regulations 6(2), 7(1), 7(3), 7(5), 16, 38, 39, and 42.

Part 2

Requirements applying to tanks and tank wagons

5 Application of Part 2

This Part applies to any tank or tank wagon that carries a hazardous substance of any hazard classification.

6 Compatibility

(1) A tank, the fittings, and any part of a tank wagon that could, in the normal course of operation, come into contact with a hazardous substance carried in that tank, must be designed and constructed using substances and materials that---

(a) are compatible with the hazardous substance; and

(b) are not listed in Table 1 of Schedule 3 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001.

(2) If a tank is to be used to carry 2 or more hazardous substances that are not compatible with each other, the tank must be designed and constructed so that---

(a) different compartments of the tank are separated by double-wall bulkheads; and

(b) each compartment of the tank has a separate filling and discharge system.

(3) For the purposes of subclause (1), compatible means that---

(a) the substances or materials used in the construction of the tank are chemically inert when in contact with the hazardous substances carried in the tank at the range of temperatures and pressures at which the contact may occur; or

(b) if the substances or materials used in the construction of the tank chemically react with the hazardous substances carried in the tank,---

(i) the reaction does not cause or contribute to a fire or explosion, or generate a substance of a different hazardous property, nature, or degree; and

(ii) continuous or repeated exposure to the reaction does not soften, weaken, or otherwise affect the substances and materials used in the construction of the tank to the extent that the tank fails to meet any of the design or construction requirements specified in these regulations.

7 Marking

(1) Marking must be permanently attached to each tank or tank sub-frame that specifies---

- (a) the design registration number issued by the Authority; and
 - (b) the recommended operating pressure for each part of the tank and fittings that are intended to operate at different pressures; and
 - (c) the maximum filling level of each tank compartment; and
 - (d) the maximum density of any liquids to be carried; and
 - (e) the material used to construct the tank; and
 - (f) the date of manufacture; and
 - (g) the manufacturer of the tank.
- (2) If different hazardous substances are carried in different tank compartments, markings must be attached to the tank to identify---
- (a) the hazardous substance contained in each tank compartment; and
 - (b) the hazardous properties of each hazardous substance in each tank compartment; and
 - (c) the tank connection and filling system to be used if more than 1 option is available.
- (3) Markings must be attached to the tank or tank sub-frame that specify the name and contact details of the test certifier who certified the last in service test certificate for the tank wagon as complying with these regulations.
- (4) The markings required by subclauses (2) to (3) must meet the standards of comprehensibility, clarity, and durability required by regulations 34 to 36 of the Hazardous Substances (Identification) Regulations 2001.
- (5) The markings required by subclause (1) must meet the standards of comprehensibility and clarity required by regulations 34 and 35 of the Hazardous Substances (Identification) Regulations 2001.

Part 3

Design, construction, and installation requirements for large tank wagons

8 Application of Part 3

This Part applies to a tank wagon---

- (a) that carries a hazardous substance of any hazard classification; and
- (b) has a tank capacity that is not less than 2 000 L.

9 Ability to withstand stress of load

(1) A tank must be designed and constructed to ensure that the tank, when undergoing stresses expected to be generated by the tank, its contents, and the fittings permanently attached to the tank, complies with the following conditions:

(a) when the tank is in an upright position,---

(i) if the tank contains a liquid hazardous substance, the loss of the liquid hazardous substance from the tank is not more than 0.1 L per day; or

(ii) if the tank contains a gaseous hazardous substance, the loss of the gaseous hazardous substance from the tank is not visible by the appearance of bubbles when soapy water is applied to the surface of the tank:

(b) when the tank is inverted and resting on its top or rotated 90 degrees about the longitudinal axis and resting on either side,---

(i) if the tank contains a liquid hazardous substance, the loss of the liquid hazardous substance from the tank is not more than 0.03 L per day; or

(ii) if the tank contains a gaseous hazardous substance, the loss of the gaseous hazardous substance from the tank is not visible by the appearance of bubbles when soapy water is applied to the surface of the tank.

(2) For the purposes of calculating the design requirements in subclause (1),---

(a) the tank must be full; and

(b) the materials used to construct the tank must be calculated at twice their actual density; and

(c) the content carried must be calculated at twice its actual density or twice the density of water at 20°C, whichever is greater.

(3) If a tolerable exposure limit, environmental exposure limit, or workplace exposure standard set for a hazardous substance by the Authority in accordance with Hazardous Substances (Classes 6, 8, and 9 Controls) Regulations 2001 prescribes a level of permitted discharge lower than the losses referred to in subclauses (1)(a) and (b), the lower limit set by the Authority applies.

10 Pressure resistance

(1) A tank that operates at pressure must be designed and constructed to ensure that the tank and fittings comply with the following conditions:

(a) it is able to withstand a pressure of not less than -7 kPa;
and

(b) when operated at the maximum obtainable pressure,---

(i) if the tank contains a liquid hazardous substance, the loss of the liquid hazardous substance from the tank is not more than 0.1 L per day;
or

(ii) if the tank contains a gaseous hazardous substance, the loss of the gaseous hazardous substance from the tank is not visible by the appearance of bubbles when soapy water is applied to the surface of the tank; and

(c) when operated at pressure, the pressure produced does not exceed the maximum obtainable pressure.

(2) A person who designs a tank and fittings must,---

(a) when calculating the maximum obtainable pressures, take the following matters into account:

(i) the intended vapour pressure and density of the hazardous substances to be carried:

(ii) ambient temperature fluctuations and temperature changes of the hazardous substances intended to be carried:

(iii) the temperatures generated by any heating and cooling system:

(iv) the substance transfer used:

(v) the pressure management capability of the tank; and

(b) if the hazardous substance is a liquid, ensure that the maximum obtainable pressure for that part of the tank or fittings is no less than the hydrostatic head of liquid when the tank is full, plus---

(i) 30 kPa for tank compartments with a capacity exceeding 8 600 L; or

(ii) 20 kPa for tank compartments with a capacity not exceeding 8 600 L.

(3) For the purposes of subclause (2)(a)(ii), the temperature must be---

(a) not less than minus 10oC and not more than 40oC for a liquid; or

(b) not less than minus 20oC and not more than 40oC for a gas.

(4) Subclause (1) does not apply to a tank and fittings designed and

constructed in accordance with the pressure requirements in the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999.

(5) A tank, tank compartment, or fittings carrying a hazardous substance with the classification of 2.1.1, 3, 4, or 5 must be designed and constructed to ensure that, when the tank is full and exposed to heat radiation of 15 kW per metre squared for a minimum of 10 minutes,---

(a) the internal pressure of the tank does not exceed the maximum obtainable pressure; and

(b) the tank compartments do not rupture.

(6) A tank or tank compartment carrying a hazardous substance with the classification of 2.1.1, 3, 4, or 5 must be designed and constructed to ensure that the pressure can be equalised, within 2 seconds, between the filling pipes and the vapour space in the tank and the upper end of the dip tube and the vapour space in the tank.

11 Fatigue resistance

(1) A tank must be designed and constructed to ensure that, after repeated filling and discharging of its contents,---

(a) if the tank contains a liquid hazardous substance, the loss of the liquid hazardous substance from the tank is not more than 0.1 L per day; or

(b) if the tank contains a gaseous hazardous substance, the loss of the gaseous hazardous substance from the tank is not visible by the appearance of bubbles when soapy water is applied to the surface of the tank.

(2) The repeated filling and discharging from tanks must be checked in design or tested as follows:

(a) all road tank wagons 5 x 10 pressure cycles from -7 kPa to the recommended operating pressure; or

(b) all rail tank wagons 5 x 10 pressure cycles from -7 kPa to the recommended operating pressure.

(3) A tank must be designed and constructed to be able to withstand fatigue stresses from movement while in transit produced by 5 x 10 pressure cycles at the following amplitudes (where g is gravitational acceleration (9.81 m/s²) and M is weight of tank, contents, and fittings (but excluding chassis)):

(a) vertical 0.6 $g \times M$:

(b) longitudinal 0.4 $g \times M$:

(c) lateral $0.4 g \times M$.

(4) For the purpose of the calculations in subclause (3), the mass for the fatigue test is,---

(a) at the maximum part of the load cycle, the sum of the mass of the empty tank plus the mass of the contents (assuming the tank is 100% full using the density of the contents or a density of 1000 kg/m, whichever is greater):

(b) at the minimum part of the load cycle, the mass is the empty tank only.

(5) Subclauses (1) and (3) do not apply to a tank (or its fittings) designed and constructed in accordance with the pressure requirements in the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999.

12 Corrosion resistance

A tank must have a wall thickness specified in the design that takes into account the tank's rate of corrosion to ensure that, during the lifetime of the tank wagon, the minimum wall thickness is not less than is necessary to meet the stress, pressure resistance, and fatigue resistance requirements in regulations 9 to 11.

13 Tank impact resistance

(1) A tank must be designed and constructed to ensure that, if the tank is struck from any direction by a 20 kg smooth, hard, spherical object with a radius of 85 mm at a speed of 5 m per second,---

(a) if the tank contains a liquid hazardous substance, the loss of the liquid hazardous substance from the tank is not more than 0.1 L per day; or

(b) if the tank contains a gaseous hazardous substance, the loss of the gaseous hazardous substance from the tank is not visible by the appearance of bubbles when soapy water is applied to the surface of the tank.

(2) Subclause (1) does not apply to a tank and fittings designed and constructed in accordance with the pressure requirements in the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999.

14 Fittings impact resistance

Any fittings positioned below the upper liquid level of a full tank

containing a liquid hazardous substance and any fittings on a tank containing a gaseous hazardous substance must be designed, constructed, and installed to ensure that, if the fittings are damaged or broken off,---

(a) if the tank contains a liquid hazardous substance, the loss of the liquid hazardous substance from the tank is not more than 0.1 L per day; or

(b) if the tank contains a gaseous hazardous substance, the loss of the gaseous hazardous substance from the tank is not visible by the appearance of bubbles when soapy water is applied to the surface of the tank.

15 Emergency preparedness

(1) A tank carrying a hazardous substance with the classification of 2.1.1, 3, 4, or 5 must be designed, constructed, and operated to ensure that, if a fire occurs in the load tank, the person operating the tank wagon is protected for not less than 1 minute from 80% of the heat emitted from the fire.

(2) The means of motive power or propulsion of any road tank wagon must be designed and constructed to ensure that, if a fire occurs, the person operating the tank wagon is protected for not less than 1 minute from 80% of the heat emitted from the fire.

(3) For the purposes of subclauses (1) and (2), the heat emitted from a fire must be calculated using the following formula:

$$Q = 1.7 + 60t^{-0.9}$$

where---

Q is heat radiation in kilowatts per metres squared; and

t is time in seconds.

(4) A tank carrying a hazardous substance with the classification of 2.1.1, 3, 4, or 5 must be designed and constructed to contain, and must have installed, in addition to the normal means of tank closure, an automatic heat-activated closing device that closes at a temperature not more than 80% of the auto-ignition temperature of the liquid at the tank outlets, for every valve that is used for transferring liquids.

16 Loss minimisation while transferring liquids or gases

(1) A tank must be designed and constructed with at least 2 means, that operate independently, to shut off the flow of a liquid hazardous substance or gaseous hazardous substance during transfer of the liquid or gas.

(2) Each means of shutting off the flow of a liquid hazardous substance or gaseous hazardous substance must---

(a) be able to be activated by the person in charge of transferring the liquid hazardous substance or gaseous hazardous substance from the tank within 10 seconds; and

(b) shut off the flow of the liquid hazardous substance or gaseous hazardous substance within 3 seconds of being activated.

(3) At least 1 means of shutting off the flow of a liquid hazardous substance or gaseous hazardous substance must shut off the flow at the tank wall and at least 1 other means must shut off the flow at the downstream end of the vehicle delivery connection.

(4) If the delivery connection is not supplied as part of the receiving tank system, the receiving tank delivery connection must have a means of shut off installed as required by subclause (3) for the delivery connection.

(5) If a pump is installed as part of the tank wagon equipment for the transfer of the liquid hazardous substance or gaseous hazardous substance, an additional means of shutting off the pump must be designed, constructed, and installed that can be activated within 5 seconds by the person in charge of transferring the liquid hazardous substance or gaseous hazardous substance.

17 Attachment of tank to chassis

The tank of a tank wagon must be designed and constructed to ensure that the attachment of the tank to the chassis is able to resist the forces specified in Schedule 1.

18 Minimising risk of possible ignition

(1) A tank wagon that carries a hazardous substance with the classification of 2.1.1, 3, or 4 must comply with the requirements set out in regulations 58 to 61 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001.

(2) The electrical resistance between the tank of a road tank wagon that carries a hazardous substance with the classification of 2.1.1, 3, or 4 and any equipment or part of equipment permanently attached to any part of that tank wagon, including the chassis, must not exceed 10 ohms.

Part 4
Requirements for large road tank wagons

19 Application of Part 4

This Part applies to a road tank wagon that---

- (a) carries a hazardous substance of any hazard classification; and
- (b) has a tank capacity that is not less than 2 000 L.

20 Vehicle fuel tank requirements

The fuel system and fuel tank of a road tank wagon must be designed, constructed, and installed so that fuel is not lost at the rate of more than 0.003 L per minute when---

- (a) the fuel system or fuel tank is exposed to heat radiation of 10 kW per metre squared for at least 1 minute; or
- (b) the fuel system or fuel tank is in any position due to the road tank wagon rolling over.

21 Stability and manoeuvrability

(1) A road tank wagon must be designed and constructed so that when the tank is full it will not roll over when subjected to any of the following:

- (a) a static roll threshold of 0.45 g;
- (b) a maximum dynamic load transfer ratio of 0.6;
- (c) a high speed transient off-tracking of 0.8 m.

(2) For the purposes of subclause (1),---

(a) static roll threshold means the maximum level of steady turning lateral acceleration a vehicle can tolerate without rollover, which is calculated as a proportion of g:

(b) g means the acceleration constant due to gravity:

(c) dynamic load transfer ratio means the ratio calculated by simulating the vehicle combination in a lane-changing manoeuvre in accordance with the process set out in the Society of Automotive Engineers standard J2179 (3 second and 90 km per hour option):

(d) high speed transient off-tracking means the maximum lateral offset of the rear axis path (usually the trailer) with respect to the path of the steer axle determined during the lane change manoeuvre set out in the Society of Automotive Engineers standard J2179 (3 second and 90 km per

hour option).

22 Longitudinal surging

A road tank wagon with a compartment size of more than 8 600 L must be designed and constructed so that, under a deceleration force of twice gravitational force, 50% or less of the force generated by the compartment filled to 65% of capacity is applied to the front most wall of the compartment.

23 Rear end collision protection

(1) A road tank wagon must be designed and constructed to ensure that a static load uniformly distributed across the central 1.5 m of the rear of the vehicle at an elevation not less than 500 mm and not more than 1 000 mm above the ground does not cause,---

(a) if the tank contains a liquid hazardous substance, the loss of a liquid hazardous substance from the tank at a rate of more than 0.1 L per minute; or

(b) if the tank contains a gaseous hazardous substance, the loss of a gaseous hazardous substance that is identifiable by smell, sound, or sight as identified by the appearance of bubbles when soapy water is applied to the surface of the tank.

(2) For the purposes of subclause (1), the static load must not be more than twice the weight of the fully laden road tank wagon or 40 tonnes, whichever is the lesser.

24 Rear run-under by small vehicles

(1) A road tank wagon must be designed and constructed with a bumper or similar structure that can withstand a static load uniformly distributed across the central 1.5 m section of the rear of the vehicle vertically in line with the bumper at an elevation of not less than 300 mm and not more than 500 mm above the ground.

(2) For the purposes of subclause (1), the static load must be---

(a) the weight of the laden tank, if that weight is not less than 10 tonnes and not more than 20 tonnes; or

(b) 10 tonnes, if the weight of the laden tank is less than 10 tonnes;
or

(c) 20 tonnes, if the weight of the laden tank is more than 20 tonnes.

Part 5
Requirements for smaller tank trailers that carry liquids

25 Application of Part 5

This Part applies to a road tank trailer---

(a) that carries a liquid hazardous substance of any hazard classification; and

(b) has a tank capacity that is less than 2 000 L.

26 Design, construction, installation, and operation requirements

Regulations 9, 10, 12, 17, 18, 21, and 23 apply to a road tank trailer.

27 Road tank trailer impact resistance

A road tank trailer must be designed and constructed to ensure that, if the tank is struck from any direction by a 15 kg smooth, hard, spherical object with a radius of 77 mm at a speed of 5 m per second,---

(a) the loss of a liquid hazardous substance from the tank is not more than 0.1 L per day; and

(b) there is no release of a gas or vapour hazardous substance that is identifiable by smell, sound, or sight as identified by the appearance of bubbles when soapy water is applied to the surface of the tank.

28 Fittings impact resistance

Any fittings positioned below the upper liquid level of a full tank must be designed, constructed, and installed so that in the event of the tank being struck from any direction by a 15 kg smooth, hard, spherical object with a radius of 77 mm at a speed of 5 m per second,---

(a) liquid hazardous substances are not discharged from the tank at a rate of more than 0.03 L per minute; and

(b) there is no release of a gas or vapour hazardous substance that is identifiable by smell, sound, or sight as identified by the appearance of bubbles when soapy water is applied to the surface of the tank.

29 Rear run-under

(1) A road tank trailer must be designed and constructed with a bumper or similar structure at an elevation of not less than 500 mm and not more than 600 mm above the ground that can withstand a static load uniformly distributed across the central 1.5 m section of the rear vehicle vertically in line with the bumper.

(2) For the purposes of subclause (1), the static load must be equal to the laden weight of the road tank trailer.

Part 6 Transportable containers

30 Application of Part 6

This Part applies to any transportable container that carries a hazardous substance of any hazard classification.

31 Requirements for UN approved containers

(1) A transportable container that complies with chapter 6.5 (intermediate bulk containers) or chapter 6.7 (portable tanks) of the UN Model Regulations may be used for the transport of hazardous substances in New Zealand if---

(a) the transportable container has the test certificates required in Part 7; and

(b) the strength of the attachment to the deck of the truck is able to resist the forces specified in Schedule 1; and

(c) transported when---

(i) empty; or

(ii) carrying substances at the maximum recommended filling capacity.

(2) Subclause (1)(c) does not apply if the vehicle transporting the vehicle container complies with regulation 21.

Part 7 Test certification

32 Requirements for issue of design test certificates

(1) A person designing a tank wagon, part of a tank wagon, or a transportable container must obtain a design test certificate to certify that the tank wagon, part of a tank wagon, or transportable container complies with the design requirements of these regulations.

(2) Despite subclause (1), a design is to be treated as a design for which a design test certificate was issued if---

(a) in the case of a tank wagon design, the design is approved under regulation 4; or

(b) in the case of a transportable container design, the design---

(i) was approved by the chief inspector under the Dangerous Goods Act 1974; or

(ii) is approved by the Authority under Part 14 of the Act.

(3) An application for a design test certificate for a tank wagon, part of a tank wagon, or a transportable container must include the technical drawings, calculations, and specifications for---

(a) each design component set out in Schedule 2 if the certification is for the whole tank wagon; or

(b) each relevant component in Schedule 2 if the certification is for part of a tank wagon.

(4) For the purposes of this regulation, a certificate of design issued under the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999 is a design test certificate for the components to which that certificate of design applies.

33 Requirements relating to design test certificates

A copy of a design test certificate must be given to the Authority by the test certifier as soon as practicable after the certificate is issued.

34 Record of designs

(1) The Authority must---

(a) keep a record of each design for which a design test certificate has been issued; and

(b) issue a number for each design.

(2) The Authority must record each design to which regulation 32(2) applies

in the same manner as it records a design for which a test certificate has been issued.

35 Requirements for issue of pre-commissioning test certificates

(1) Before operating a tank wagon, a person must apply for a pre-commissioning test certificate.

(2) A pre-commissioning test certificate may be issued if the test certifier is satisfied that---

(a) each component of the tank wagon specified in Schedule 2 as requiring a pre-commissioning test certificate has been constructed and installed in accordance with a design for which a design test certificate has been issued in accordance with regulation 32; and

(b) each compartment of the tank wagon that is likely to be operated under pressure complies with subclause (3).

(3) A tank compartment passes a pressure test if it does not crack or suffer any permanent distortion after application of 1 of the following tests:

(a) a 10-minute hydrostatic test conducted at 1.5 times the design pressure; or

(b) a 10-minute pneumatic test conducted at 1.25 times the design pressure, with adjacent compartments---

(i) empty in both instances; and

(ii) at atmospheric pressure; or

(c) a pressure test specified in a code of practice approved by the Authority under section 78 of the Act.

36 Requirements for issue and renewal of in-service test certificates

(1) A person in charge of a tank wagon must obtain an in-service test certificate for that tank wagon not more than 2 years after---

(a) the date of issue of the pre-commissioning test certificate under regulation 35 for that tank wagon; or

(b) the date of the previous in-service test certificate issued under this regulation.

(2) An in-service test certificate may be issued by a test certifier for a tank wagon if the test certifier, after completing an internal and external

visual inspection of that tank's compartments, is satisfied that the tank and tank wagon comply with regulations 6, 12, 16, 23, and 24.

(3) An in-service test certificate may be issued by a test certifier if the test certifier is satisfied that the tank wagon and tank comply with Schedule 2.

(4) An in-service test certificate may not be issued in accordance with subclause (2) unless a test certificate has been issued for that tank wagon in accordance with subclause (3) or regulation 35 within the past 4 years.

(5) The Authority may allow the in-service test certificate issued in accordance with subclause (2) or subclause (3) to be issued at a later date than is specified in that subclause but that later date must not be more than---

(a) 5 years after the date of issue of the previous test certificate if the previous test certificate was issued in accordance with subclause (2); or

(b) 10 years after the date of issue of the previous test certificate if the previous test certificate was issued in accordance with subclause (3).

(6) The Authority, when exercising its discretion under clause (5) must take into account---

(a) the maximum quantities and types of hazardous substances transported and the frequency of use of the tank wagon; and

(b) the review and monitoring systems in place for the management of hazardous substances and the tank wagon; and

(c) whether the person seeking the extension of time for renewal of the test certificate has promptly complied with the requirements of the Act and regulations made under the Act.

37 Additional in-service test certificates

If a component of a tank wagon that requires an in-service test certificate in accordance with regulation 36 is repaired, altered, or subject to an accident and that component may no longer comply with the requirements of regulation 36, the tank wagon must not be used until test certificates are obtained in accordance with regulations 36(2) and (3).

Part 8 Operating requirements

38 Compatibility of hazardous substances carried

(1) This regulation applies to a tank wagon that carries a hazardous substance of any hazard classification.

(2) Before a tank wagon is used to carry a hazardous substance of any hazard classification that differs from a hazardous substance previously carried,---

(a) the tank wagon must be completely emptied of the previously carried substance; or

(b) the mixture of the hazardous substance with any residue of the previously carried substance remaining in the tank must not create a substance of a different hazardous property, nature, or degree.

39 Filling tank wagons

(1) This regulation applies to a tank wagon that---

(a) carries a liquid hazardous substance of any hazard classification; and

(b) has a tank capacity that is not less than 2 000 L.

(2) A person in charge of a tank wagon must ensure that a tank compartment is not filled to a level beyond the maximum filling level.

40 Transfer of liquid or gaseous substances of any hazard classification
The person in charge of transferring a liquid hazardous substance or gaseous hazardous substance of any hazard classification to or from any tank wagon must---

(a) attend the tank wagon from the time the transfer of the hazardous substance commences and until it is completed; and

(b) ensure that the requirements of regulation 41 are met; and

(c) ensure that, from the time the transfer of the hazardous substance commences and until it is completed, the tank wagon does not move; and

(d) before the tank wagon is moved, ensure that all tank openings are securely closed when the transfer of hazardous substance is complete.

41 Supervision of tank wagons

(1) Despite regulation 56 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001 and regulation 9 of the Hazardous Substances (Classes 6, 8, and 9 Controls) Regulations 2001, the person in charge of a tank wagon that contains a liquid hazardous substance or gaseous hazardous substance

of any hazard classification may leave that tank wagon unattended---

(a) if the tank wagon is in a transit depot; or

(b) for up to 5 minutes if the tank wagon---

(i) is not less than 30 m away from an area of high intensity land use; or

(ii) is not less than 8 m away from an area of low intensity land use.

(2) For the purposes of subclause (1), the terms area of high intensity land use, area of low intensity land use, and transit depot have the same meaning as in regulation 3 of the Hazardous Substance (Classes 1 to 5 Controls) Regulations 2001.

42 Fire-fighting capability

(1) This regulation applies to a road tank wagon that---

(a) carries a hazardous substance of any hazard classification; and

(b) has a tank capacity of not less than 2 000 L.

(2) A tank wagon must comply with any applicable requirements set out in regulations 21 to 24 of the Hazardous Substances (Emergency Management) Regulations 2001.

(3) A tank wagon that carries a hazardous substance with a hazard classification listed in Schedule 3 of the Hazardous Substances (Emergency Management) Regulations 2001 must have---

(a) at least 1 fire extinguisher in the tank wagon cab; and

(b) on each tank, either---

(i) at least 2 fire extinguishers; or

(ii) at least 1 fire extinguisher that has at least the equivalent capacity of 2 fire extinguishers that comply with the specifications set out in regulation 23 of the Hazardous Substances (Emergency Management) Regulations 2001.

(4) Fire extinguishers must be installed and located on a tank wagon in a way that the person in charge of the tank wagon is able to extract any extinguisher from its location and hold it ready for use within 10 seconds.

(5) Regulation 22(1) of the Hazardous Substance (Emergency Management) Regulations 2001 does not apply to road tank wagons with a tank capacity of not less than 2 000 L.

43 Authorised persons

A person in charge of a road tank wagon with a tank capacity of not less than 2 000 L must, at any time a hazardous substance (or residue of a hazardous substance) of any hazard classification is contained in the tank, ensure that no person is in or on the tank wagon except the persons---

- (a) necessary for the operation of the tank wagon; and
- (b) who carry out maintenance, inspection, training, or management duties.

Schedule 1 rr 17, 31(1)(b)

Forces able to be resisted by attachment of tank to chassis

Forces

Road

Rail

Vertically up

1 g x M

0.8 g x M

Vertically down

2 g x M

1.8 g x M

Lateral

1 g x M

0.3 g x M (but 0.65 g x M for sea transport)

Longitudinal

2 g x M

2.8 mm x T/G

2 g x M (for transportable containers)

g = acceleration constant due to gravity

2

(9.81 m/s)

G = gross weight of tank, contents,
chassis, and all associated equipment

M = weight of tank, contents, and
fittings (but excluding chassis)

mn = mega newtons

T = weight of tank and contents

Schedule 2 rr 32(3), 35(2)(a), 36(3)
Requirements for design, pre-commissioning, and in-service
test certification

Regulation

Provision/component

Rail

Road (>
(- 2 000 litres)

Road (<
(- 2 000 litres)

6(1) and (2)

Compatibility

D, PC

D, PC

D, PC

7

Marking

D, PC

D, PC

D, PC

9(1)(a)

Ability to withstand stress of load

D, PC

D, PC

D, PC

9(1)(b)

Ability to withstand stress of load

D, PC

D, PC

D, PC

9(3)

Ability to withstand stress of load

D, PC, IS

D, PC, IS

D, PC, IS

10(5) and (6)

Pressure resistance

D, PC

D, PC

D, PC

11
Fatigue resistance
D, PC
D, PC

12
Corrosion resistance
D, PC, IS
D, PC, IS
D, PC, IS

13
Tank impact resistance
D, PC
D, PC
D, PC

14
Fittings impact resistance
D, PC
D, PC
D, PC

15(1) and (2)
Emergency preparedness
D, PC
D, PC
D, PC

15(3)
Emergency preparedness
D, PC, IS
D, PC, IS

16(1) to (4)
Transfer of liquids or gases
D, PC, IS
D, PC, IS
D, PC, IS

17
Attachment of tank to chassis
D, PC
D, PC
D, PC

18
Minimising risk of possible ignition

D, PC

20

Vehicle fuel tank requirements
D, PC, IS
D, PC, IS
D, PC, IS

21
Stability and manoeuvrability

D, PC
D, PC

22
Longitudinal surging

D, PC

23
Rear end collision protection

D, PC
D, PC

24
Rear run-under by small vehicles

D, PC
D, PC

35(3)
Tank compartment pressure test
PC, IS
PC, IS
PC

D = design test certification

IS = in-service test certification

PC = pre-commissioning test certification

Diane Morcom,
Clerk of the Executive Council.

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